



with diagonals between horizontals connected by the
verticals for strength and resistance to deflection.
Such designed fabrication is a high cost item of
buildings.

5 We have investigated various alternatives as
available from fabricators of steel beams and other
frames, typically of a construction comprising upper
and lower channel sections interconnected by zig-zag
bracing which may be bent up from stock rod or bar
10 prior to welding to the channels alternately at bends.
Fabricators geared up to making such members can
achieve good economy, and can further design and
produce to specific requirements at quite reasonable
costs. However, such constructions are not ideal for
15 use in walls that will need cladding inside and/or
exteriorly, often by panels that are best fitted with
verticals at their sides to aid edge-to-edge or
overlapping junctions.

 It is an object of this invention to provide an
20 alternative structural system having advantages.

 According to this invention there is provided a
structural system utilising a generally C-section
member with side-recessing therealong via which a
length thereof is securable to ends of other lengths
25 that are inserted end-on into the C-section with a 90

strength and affords securement positions that are as conveniently occupied by bolts through registering holes as by welds. Optionality as to fabrication on site or at the factory is thus complete.

5 Specific implementation of this invention will now be described, by way of example, with reference to the accompanying drawing, in which:

 Figure 1 shows a section through a preferred structural member;

10 Figure 2 shows a section through such a member with its opening closed;

 Figure 3 shows, diagrammatically, a structural frame using lengths of the members of Figures 1 and 2;

 Figures 4 and 5 show, diagrammatically, top joint
15 details of Figure 3.

 In the drawing, referring first to Figure 1, a preferred structural member 10 of generally C-section has a flat web 12 with substantially perpendicularly extending sides 14A, 14B each recessed at 16A, 16B to
20 present a flat 18A, 18B extending along each side, and with substantially perpendicularly ends 20A, 20B returned parallel with the web 12. Overall, the section of the member 10 is longer (at X) across its web 12 than (at Y) down its sides 14A, 14B. The
25 spacing of the flats 16A, 16B from each other

welding that may require dipping of the entire frame.

Turning to Figure 3, a frame 30 of which at least top 32 and bottom 34 and verticals 36 are of structural members as in Figures 1 and 2.

5 In the detail of Figures 4 and 5, only frame parts 32 to 36 are of such members, diagonally parts 38 are of tension bars or rod type. Securement together using bolts is shown at 40, 42 for the verticals and horizontals and at 44 for the diagonals, bolt heads
10 conveniently being in recess of the members hereof.

7. A structural system constructed and arranged substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.